

more than one sex or life stage) a holotype is not mandatory even now: syntypes suffice, or may be better. If the author has based the species on a series of specimens rather than a holotype, whether or not for a stated reason, then an arbitrary 'routine' restriction to a lectotype is a modification of the original work which may serve no purpose other than satisfying the entirely philosophical, and surely mistaken, belief that a name-bearing type must invariably be a single entity. If the syntypes are believed to be conspecific no taxonomic purpose is served by a lectotype; if they are not, or if there is doubt, then a lectotype is indeed necessary but it is not difficult to state this and so comply with Article 74.7.3. Later workers deserve to know why the type series has been restricted. Many routine designations of lectotypes have had the very unfortunate effect of changing the application of the names concerned, and this should become less common now that authors are obliged to state their reason for designating a particular lectotype.

Comments on the proposed conservation of *Hydrobia* Hartmann, 1821 (Mollusca, Gastropoda) and *Cyclostoma acutum* Draparnaud, 1805 (currently *Hydrobia acuta*) by the replacement of the lectotype of *H. acuta* with a neotype; proposed designation of *Turbo ventrosus* Montagu, 1803 as the type species of *Ventrosia* Radoman, 1977; and proposed emendation of HYDROBIINA Mulsant, 1844 (Insecta, Coleoptera) to HYDROBIUSINA, so removing the homonymy with HYDROBIIDAE Troschel, 1857 (Mollusca)

(Case 3087; see BZN 55: 139–145; 56: 56–63, 143–148, 187–190, 268–270; 58: 56–58, 140–141)

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Gittenberger (BZN 58: 140) states that there are clear affirmative answers to his three questions on the status of the lectotype for *Hydrobia acuta* (Draparnaud, 1805). We argue to the contrary. We conclude the following for Boeters's (1984) lectotype designation:

(a) The lectotype is taxonomically inadequate as it cannot be identified with certainty and it is most probably (see Wilke, Davis & Rosenberg. BZN 56: 187–190) a specimen of *Ventrosia ventrosa* (Montagu, 1803), and (b) stability and universality are threatened because Boeters's lectotype is not in accord with the prevailing usage of the name.

(a) Taxonomic inadequacy of the lectotype

The geographic origin of Draparnaud's (1805) syntypes is unknown. Neither the original description nor any data accompanying the original material, collector's notes, itineraries or personal communications indicate where the material came from. *Hydrobia acuta* is known from the western Mediterranean (as *H. a. acuta*) and from the northeastern Atlantic (as *H. a. neglecta*) (see Wilke et al., 2000) and the notion that Draparnaud's material came from the Étang du Prévost (to which *H. acuta* was restricted by Radoman, 1977) near Montpellier, where Draparnaud lived, is not justified.

The origin of Draparnaud's material is important because locality data are crucial for the determination of hydrobiid taxa. As we stressed in our previous comment

(BZN 56: 187–190), the identification of species of *Hydrobia* and related groups based on shell characters alone is very difficult and highly speculative as, although genetically controlled, the characters are strongly modulated by environmental factors like substratum, salinity, competition and parasitism (the last affects shell size and the roundness of the whorls). There are tendencies in shell differences (for example, the whorls in *H. acuta* are often flatter than in *V. ventrosa*) and these characters are sometimes used for a preliminary determination. Where we assumed that the two taxa *H. acuta* and *V. ventrosa* were present in a population, identification based on shell characters could be confirmed with detailed anatomical and molecular methods in an average of about 80% of cases (BZN 56: 187–190). Although this indicates that shell characters are not randomly distributed, the average success of determination is far from being adequate for purposes of typification.

Boeters's approach of correlating the shell morphology of Draparnaud's (1805) preserved material with the morphology and anatomy of living material from the (supposed) same place is correct in principle (though a statistically sound analysis would have been more appropriate than an empirical estimate of whorl roundness). However, this approach works only if specimens are compared from the same site, if the environmental conditions at that locality have not changed significantly between collections, if no parasitism occurs, and if the species composition is still the same. None of these factors can be assumed in Boeters's (1984) study that led to his designation of a lectotype for *H. acuta*. In fact, the species combination *H. acuta* and *V. ventrosa* found in the Étang du Prévost is not typical. In the western Mediterranean at least six taxa have similar shell shapes: *Hydrobia acuta*, *Hydrobia* spp. A and B (see Wilke et al., 2000), *Ventrosia ventrosa*, *V. pontieuxini* and *Semisalsa* cf. *stagnorum*. These taxa occur in various combinations with up to three taxa sympatric in some of the 23 sites we studied. The combination *H. acuta/V. ventrosa* was found at only four sites. We also studied two populations from the Étang du Prévost, one received in 1997 and the other in 1999; based on the male reproductive system and molecular studies, the former population contained only *H. acuta* whereas the latter contained *H. acuta* and *V. ventrosa*. As Draparnaud's material is almost 200 years old and not well preserved (for example, aperture eroded, color faded, soft body missing or degraded), further anatomical or molecular studies are most improbable.

The suggestion by Wilke et al. (BZN 56: 187–190) that Boeters's concept of '*Hydrobia acuta*', based on anatomical criteria, is actually *Ventrosia ventrosa* has been verified (see Wilke & Davis, 2000).

(b) Prevailing usage of the name

Over the past five years we have received more than 80 populations of various species of *Hydrobia* from malacologists and field biologists from 12 European countries. In about 30% of the samples, one or more taxa were misidentified. However, when these workers identified *H. acuta*, it never had an awl-like penis (*sensu* Boeters) except for one population we received from Greece. This shows that the overwhelming majority of biologists do not apply the *Hydrobia*-concept of Boeters (1984), but the concept used by Giusti et al. (BZN 55: 139–145).

Boeters's (1984) lectotype designation for *Hydrobia acuta* is taxonomically misidentified and not in accord with the prevailing usage of the name and we strongly support the proposed neotype designation, for which the specimen is from a known locality, by Giusti et al. (BZN 55: 139–145).

Additional references

- Wilke, T. & Davis, G.M. 2000. Intraspecific mitochondrial sequence diversity in *Hydrobia ulvae* and *Hydrobia ventrosa* (Hydrobiidae: Rissooidea: Gastropoda): Do their different life histories affect biogeographic patterns and gene flow? *Biological Journal of the Linnean Society*, **70**(1): 89–105.
- Wilke, T., Rolán, E. & Davis, G. M. 2000. The mudsnail genus *Hydrobia* s.s. in the northern Atlantic and western Mediterranean: a phylogenetic hypothesis. *Marine Biology*, **137**: 827–833.

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The Glossary entry in the Code for a neotype states: ‘The single specimen designated as the name-bearing type of a nominal species or subspecies when there is a need to define the nominal taxon objectively . . . If stability and universality are threatened, because an existing name-bearing type is either taxonomically inadequate or not in accord with the prevailing use of a name, the Commission may use its plenary power to set aside that type and designate a neotype’.

Our application entirely conforms with this definition, namely to set aside the lectotype designation by Boeters (1984) for *Hydrobia acuta* (Draparnaud, 1805) and to designate a neotype in agreement with the understanding of the species since Mars (1966) and Radoman (1977) and followed by virtually all subsequent authors. Recognition of Boeters’s lectotype would alter the concept of *H. acuta* (see our previous comment on BZN **56**: 145–147) with serious consequences for the stability of the names of a number of species and genera: the specific name of *Ventrosia ventrosa* (Montagu, 1803) would replace *H. acuta* and a new name would be required for *H. acuta* as usually understood, the name *Hydrobia* Hartmann, 1821 would be transferred to the genus currently called *Ventrosia* Radoman, 1977, and the group generally known as *Hydrobia* would require a new name. That these changes would be unacceptable to the majority of hydrobiid workers has been demonstrated by the number of supportive comments on this case.

It seems to us that in his new comment, published in BZN **58**: 140–141, Gittenberger has not offered any additional information or new insights into the problem of the typification of *Hydrobia acuta*. He states ‘I am in favour of accepting the existing lectotype’ but gives nothing new to explain his choice. His view that ‘a neotype (suggesting that all the syntypes cannot be identified) would not bring the current confusion to an end. Only good taxonomic research will do this’ is illogical and is not supported by most of those who have commented on our application and who consider that the current confusion will end only when, following designation of a neotype, taxonomy and nomenclature are brought into accord. Further, Gittenberger makes the point that our case ‘relates to systematics, not nomenclature’, but it is evident to us that the two are linked and that frequently nomenclatural problems are solved with the resolution of taxonomic/systematic problems.

Gittenberger’s statement shows that he has ignored all that has been written on this case by Giusti et al. (BZN **56**: 144–148), by Wilke et al. (BZN **56**: 187–190), and by several other supportive authors. We commend these comments to him: